

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF NEW YORK

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UNITED STATES OF AMERICA,

– against –

No. 18-cr-609 (RJD)

ANTHONY ZOTTOLA, SR.,

Defendant.

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**DEFENDANT ANTHONY ZOTTOLA, SR.’S MOTIONS *IN LIMINE***

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Defendant Anthony Zottola, Sr. (“Zottola”) respectfully submits this memorandum of law in support of his motions *in limine* to exclude the government’s expert witnesses, or in the alternative for a *Daubert* hearing.

## **I. INTRODUCTION**

In just the last several weeks leading up to trial the government has noticed that it intends to call more than a dozen expert witnesses on nearly as many topics, including DNA, cellular telephone location data, firearms handling, automobile identification, ballistics, forensic pathology, and fingerprint analysis.

Many of the government’s disclosures do not even bother to identify the testifying expert, their opinions, or the basis for those expert conclusions. They leave the defendants with insufficient information to identify and retain the correct types of experts to assess the government’s proposed experts’ testimony. And because the government waited until the last minute, there is simply no time in the month before trial for the government to cure the prejudice to defendants caused by these deficient disclosures. Even if the government made fulsome Rule 16 disclosures now, the defendants would be left scrambling, unable to adequately prepare for trial.

Perhaps worse yet, several of the government’s purported experts’ opinions are based on fallacious scientific methodology—or no methodology at all. Any opinions of the government’s noticed cellphone location expert are presumptively based on layers of questionable assumptions regarding the accuracy of location information provided by cellular telephone networks. And the government’s disclosed experts’ conclusions from video and photographic evidence of a shooter’s dominant hand, or the identification of a specific vehicle are based on no more than the experts’ “experience.” That does not pass muster under FRE 702 and *Daubert*.

The Court’s gatekeeping function at trial requires careful parsing of the government’s propounded expert testimony to ensure that “proffered testimony has a sufficiently reliable

foundation to permit it to be considered.” *United States v. Cruz*, 363 F.3d 187, 192 (2d Cir. 2004) (“When parties seek to introduce expert testimony in accordance with Rule 702, a district court must serve as a gatekeeper. The Federal Rules of Evidence “assign to the trial judge the task of ensuring that an expert’s testimony . . . rests on a reliable foundation”) (quotation marks and citations omitted). The Court should not permit the government to circumvent that prerogative here.

Accordingly, the Court should exclude the government’s proffered expert testimony, or at a minimum hold a *Daubert* hearing to evaluate the reliability of the government experts’ testimony.

## **II. THE GOVERNMENT’S EXPERT DISCLOSURES**

The government has provided four separate expert disclosure letters on May 27, 2022, June 14, 2022, July 11, 2022, and July 15, 2022, noticing no fewer than 13 proposed expert witnesses.<sup>1</sup> These seriatim disclosures supplement and amend each other, making it somewhat difficult to conclusively identify the government’s full list of experts. However, it appears that the government intends to call the following expert witnesses at trial:

1. An unidentified medical examiner from the New York City Office of the Chief Medical Examiner who will testify regarding the cause of Sylvester Zottola’s death, *see* Ex. A, 5/27 Disclosure at 1-2;
2. FBI Special Agent Richard Busick who will testify regarding “cell phone location data,” specifically the “approximate location of certain cellular telephones,” (it remains unclear which phones) that the government had “previously produced in Rule 16 discovery,” on at least 24 dates, *see* Ex. A, 5/27 Disclosure at 1-2;
3. FBI Special Agent Matthew Fleming who will “testify regarding the identification of the firearm that defendant Bushawn Shelton is charged with in this case and the interstate nexus of the firearm,” *see* Ex. A, 5/27 Disclosure at 1-2;

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<sup>1</sup> Attached as Exhibit A is the government’s May 27, 2022 expert disclosure (ECF Doc. 357); attached as Exhibit B, is the government’s amended June 14, 2022 expert disclosure (ECF Doc. 376); attached as Exhibit C, is the government’s July 11, 2022 expert disclosure (ECF Doc. 392); attached as Exhibit D, is the government’s July 15, 2022 expert disclosure (ECF Doc. 394).

4. FBI Special Agent Michael Liberti who will “testify as an expert regarding firearms handling,” with respect to the July 11, 2018 shooting of John Doe-1, specifically that “given his expertise, the shooter’s dominant hand was his left hand,” *see* Ex. B, 6/14 Disclosure at 1-2;
5. An unidentified NYPD detective from the NYPD Laboratory who will testify regarding the July 11, 2018 shooting of Salvatore Zottola, specifically that “the five cartridge casings recovered from the crime scene . . . were fired from the same firearm,” *see* Ex. B, 6/14 Disclosure at 1-2;<sup>2</sup>
6. An unidentified NYPD detective from the NYPD Laboratory who will testify regarding the October 4, 2018 murder of Sylvester Zottola, specifically whether the bullets and cartridge casings recovered from the crime scene were fired from the same firearm, *see* Ex. B, 6/14 Disclosure at 3;
7. Gabrielle McKenzie, a criminalist from the OCME’s Forensic Biology Laboratory, to testify as an expert in forensic DNA regarding DNA collected on April 15, 2018 from DVR wires following the theft of DVR cameras at a Zottola family member’s residence, *see* Ex. B, 6/14 Disclosure at 3;
8. Cassandra Williams, a criminalist from the OCME’s Forensic Biology Laboratory, to testify as an expert in forensic DNA regarding DNA collected: (1) following the July 11, 2018 non-fatal shooting of John Doe-1 and the October 4, 2018 murder of Sylvester Zottola, (2) from the December 27, 2018 incident, and (3) following the June 12, 2018 menacing of Sylvester Zottola, *see* Ex. B, 6/14 Disclosure at 3-4, Ex. C, 7/11 Disclosure at 2;<sup>3</sup>
9. Margret Potoczniak, a criminalist from the OCME’s Forensic Biology Laboratory, to testify as an expert in forensic DNA regarding DNA recovered following a May 4, 2018 menacing, *see* Ex. B, 6/14 Disclosure at 4;
10. Tiffany Smith, a forensic examiner from the FBI Lab, who will testify regarding: (1) “the properties of DNA, DNA testing and analysis, and the examination of DNA from a face mask and jacket which law enforcement recovered on November 26, 2017 from the vicinity of the menacing and/or attempted kidnapping of Sylvester Zottola,” and (2) “examination of DNA from items recovered from a Honda Accord, including by NYPD officers on June 12, 2018, shortly after Sylvester Zottola was threatened by an individual with a gun,” *see* Ex. B, 6/14 Disclosure at 4-5, Ex. C, 7/11 Disclosure at 2;

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<sup>2</sup> The government initially identified that it intended to call NYPD Detective Colleen Horan, *see* Ex. B, 6/14 Disclosure at 1-2, but subsequently disclosed that “NYPD Detective Colleen Horan is no longer available to testify.” Ex. C, 7/11 Disclosure at 1 n.1.

<sup>3</sup> The government initially identified that it intended to call Christina Sorenson and Sean McCaffery for several of these opinions, but subsequently disclosed on July 11, 2022 that it intended to call criminalist Cassandra Williams instead. *See* Ex. C, 7/11 Disclosure at 2.

11. Lara D. Adams, a forensic examiner from the FBI Lab, who will testify regarding “the examination of DNA from items recovered from a Nissan Altima, which the government will show was used in the July 11, 2018 shooting of John Doe-1,” *see* Ex. B, 6/14 Disclosure at 5;
12. Erik Carpenter, a forensic examiner from the FBI Laboratory, “who will provide expert testimony regarding the development of latent prints in a Nissan Altima, which the government will show was used in the July 11, 2018 shooting of John Doe-1,” who “is expected to testify that latent prints that were obtained and submitted in this case were of value and were found to be a match with fingerprints previously obtained from the owner of the Nissan Altima,” *see* Ex. C, 7/11 Disclosure at 2, *see* Ex. D, 7/15 Disclosure at 1; and
13. NYPD Detective Thomas Burke, who is a member of the NYPD’s Autocrimes Squad and is expected to testify “regarding the identification of the vehicle used in the murder of Sylvester Zottola on October 4, 2018,” based on a comparison of surveillance photos and video footage of a grey Ford Fusion with “photographs of a grey Ford Fusion taken at Major World Auto on October 10, 2018,” *see* Ex. C, 7/11 Disclosure at 2-3.

### **III. THE GOVERNMENT’S EXPERT NOTICES ARE DEFICIENT; THE PREJUDICE TO DEFENDANTS BASED ON THE INADEQUATE DISCLOSURES CANNOT BE REMEDIED IN ADVANCE OF TRIAL**

Federal Rule of Criminal Procedure 16 requires that, with respect to any proposed expert testimony:

At the defendant’s request, the government must give to the defendant a written summary of any testimony that the government intends to use under Rules 702, 703, or 705 of the Federal Rules of Evidence during its case-in-chief at trial . . . . The summary provided under this subparagraph must describe the witness’s opinions, the bases and reasons for those opinions, and the witness’s qualifications.

Fed. R. Crim. P. 16(a)(1)(G). The government’s expert notices are patently deficient—they do not come close to providing even the bare bones information that Rule 16 requires.

As an initial matter, for at least three sets of expert opinions, the government does not even identify *who* the testifying expert will be. Although we are approximately one month prior to trial, the government has not disclosed the identity of the experts who will testify regarding: (1) Sylvester Zottola’s cause of death, (2) ballistics evidence from the July 11, 2018 shooting of John Doe-1, and (3) ballistics evidence from the October 4, 2018 murder of Sylvester Zottola. *See* Ex.



A, 5/27 Disclosure at 1-2; Ex. B, 6/14 Disclosure at 1-3. Obviously without this information, Mr. Zottola cannot evaluate the witness' qualifications, as Rule 16 intends. *See, e.g., Trouble v. Wet Seal, Inc.*, 179 F. Supp. 2d 291, 303 (S.D.N.Y. 2001) (excluding expert based on "lack of experience" in fields relevant to proffered opinions).

In other cases, the government's disclosures did not clearly notice the experts' opinions. For example, while the government disclosed that FBI Special Agent Richard Busick will testify regarding "cell phone location data," the government has not provided any information regarding: (1) SA Busick's expert conclusion; (2) which cellphones he analyzed to arrive at those opinions; or (3) even which locations are the subject of the expert testimony. *See* Ex. A, 5/27 Disclosure at 1-2. This inadequate disclosure alone is a basis for precluding the propounded expert testimony. *See United States v. Ulbricht*, No. 14-CR-68 (KBF), 2015 WL 413318, at \*3 (S.D.N.Y. Feb. 1, 2015) (precluding expert testimony that was the subject of deficient notices, explaining that while the expert "disclosure letters attach curricula vitae. Lacking are any expected opinions, lacking are the bases for such opinions. Lacking is any description of analysis or methodology . . . . There is a deep and consistent body of case law that leaves no doubt such disclosures are inadequate. That body of case law cites the repeated preclusion by trial judges of experts when disclosures have failed to meet the minimum requirements. None of this is novel."); *United States v. Mahaffy*, No. 05-CR-613 (ILG), 2007 WL 1213738, at \*2 (E.D.N.Y. Apr. 24, 2007) ("It is well-settled that a court may in its discretion preclude expert examination . . . regarding any topics or opinions not properly disclosed.").

The government also failed to disclose the methodologies that several of the noticed experts used to arrive at their opinions. That omission is itself a further basis to preclude the opinions. *See Ulbricht*, No. 14-CR-68 (KBF), 2015 WL 413318, at \*5-6 ("a failure to provide the required

level of detail as to the expert's opinions and the bases, reasons, and sources of those opinions can also lead to preclusion. . . . This is both sensible and fair. It is sensible because without the appropriate detail, a Court cannot possibly assess admissibility, an opposing party cannot prepare a response or for proper cross-examination, and a trial devolves into jungle warfare by ambush.”).

For example, the government has provided no detail regarding the bases for NYPD Detective Thomas Burke's opinion testimony that he identified the specific Ford Fusion vehicle allegedly used in the October 4, 2018 murder. The government's disclosure states only that he apparently deduced the opinion based on photographs and video evidence, and that his testimony would “describe the details and characteristics of the vehicle that allow him to determine whether the vehicle is consistent or the same across pieces of video surveillance on that date.” Ex. C, 7/11 Disclosure at 3. The same is true of the purported expert testimony regarding the “approximate location of certain cellular telephones” about which the government has provided no information regarding which cellular telephones, where they allegedly were, or how the government's expert arrived at that conclusion. *See* Ex. A, 5/27 Disclosure at 1.

There is also no disclosure of the basis for SA Michael Liberti's opinions who will testify that in the July 11, 2018 shooting of John Doe-1, “the shooter's dominant hand was his left hand.” The government stated only that “Special Agent Liberti . . . reviewed video surveillance showing an individual firing multiple shots at John Doe-1 on July 11, 2018, at approximately 6:39 a.m. (BLANCO ET AL 015060), and given his expertise, the shooter's dominant hand was his left hand.” Ex. B, 6/14 Disclosure at 2. Because the government has not disclosed the bases for their experts' opinions, these experts' testimony should be precluded. *See United States v. Wilson*, 493 F. Supp. 2d 484, 487 (E.D.N.Y. 2006) (“even if expert disclosure satisf[ies] the requirement of describing the witness's opinions, it is clear that Wilson has made no attempt at all to describe the

bases and reasons for those opinions as required by [Rule 16]. For that reason alone, testimony by Professor Payne cannot be admitted.”) (quotation marks, citations, and modifications omitted).

For *each expert opinion*, the government must fulfill *all* of Rule 16’s disclosure requirements. The government cannot simply select which requirements by which to abide. But that is precisely what the government has done here—choosing to disclose the expert’s identity in some cases, opinions in others, and the methodology in yet other instances. Few if any of the government’s disclosures fulfill all of Rule 16’s requirements. These perfunctory disclosures provide no basis for Mr. Zottola, or the Court, to evaluate “what the expert’s opinions are [or], even more importantly, . . . the bases for those opinions.” *Ulbricht*, 858 F.3d at 115. Permitting the government to introduce expert testimony following such a limited disclosure would be inconsistent with Rule 16’s aim to “minimize surprise” and “provide . . . a fair opportunity to test the merit of the expert’s testimony through focused cross examination.” Fed. R. Crim. P. 16, Advisory Committee Notes, 1993 Amendment.

Because trial is fast approaching, it is also simply too late for the government to cure the defects plaguing its more than a dozen expert notices to effectively permit cross-examination and retention of defense experts to analyze the accuracy of the government’s witnesses’ anticipated opinion testimony. *See Mahaffy*, No. 05-CR-613 (ILG), 2007 WL 1213738, at \*3 (“The Court will preclude defendant Mahaffy from presenting Mr. Cohen’s expert testimony at trial due to his late submission. Failure to comply with deadlines set forth by a court is a separate and independent basis for precluding expert testimony. Defendant Mahaffy’s late submission is particularly egregious because he has . . . [had] ample time to determine the topics upon which his expert would testify.”) (quotation marks and citations omitted)); *accord United States v. Foley*, 111 F. App’x 840, 840–41 (6th Cir. 2004) (finding that district court did not abuse its discretion in precluding

expert testimony due to untimely and insufficient disclosure of summary statement). The Court should, therefore, preclude the proposed expert's testimony based on the insufficiency of the government's notice alone.

#### **IV. THE GOVERNMENT'S PROPOSED CELL SITE LOCATION EXPERT TESTIMONY SHOULD BE PRECLUDED AS THE PRODUCT OF UNRELIABLE METHODOLOGY**

##### **A. Legal Standard**

Under Federal Rule of Evidence 702, expert opinion testimony is allowed only if: (a) the expert's "specialized knowledge will help the trier of fact . . . determine a fact in issue;" (b) it "is based on sufficient facts or data;" (c) "the testimony is the product of reliable principles and methods;" and (d) the expert has "reliably applied the principles and methods[.]" Fed. R. Evid. 702. It is thus elemental under FRE 702 that in evaluating expert evidence "the court's focus must be on the principles and methodologies underlying the expert's conclusions, rather than on the conclusions themselves." *Malletier v. Dooney & Bourke, Inc.*, 525 F. Supp. 2d 558, 565-66 (S.D.N.Y. 2007) (internal citations omitted).

Accordingly, in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, the Supreme Court identified the factors a district court should consider when determining whether expert testimony is sufficiently reliable: (1) whether a theory or technique "can be (and has been) tested;" (2) whether the theory or technique "has been subjected to peer review and publication;" (3) a technique's "known or potential rate of error;" and the "existence and maintenance of standards controlling the technique's operation;" and (4) whether a particular technique or theory has gained "general acceptance" in the "relevant scientific community." 509 U.S. 579, 593-94 (1993). "[W]hen an expert opinion is based on data, a methodology, or studies that are simply inadequate to support the conclusions reached, *Daubert* and [Federal] Rule [of Evidence] 702 mandate the

exclusion of that unreliable opinion testimony.” *Amorgianos v. Nat’l R.R. Passenger Corp.*, 303 F.3d 256, 266 (2d Cir. 2002).

“[T]he proponent of expert testimony has the burden of establishing by a preponderance of the evidence that the admissibility requirements of Rule 702 are satisfied.” *Almeciga v. Ctr. for Investigative Reporting, Inc.*, 185 F. Supp. 3d 401, 415 (S.D.N.Y. 2016) (quoting *United States v. Williams*, 506 F.3d 151, 160 (2d Cir. 2007)).

Several of the government’s proffered experts’ testimony, most clearly that of SA Busick regarding cell site location data, fail on that basis as well.

## **B. The Government’s Proposed Cell Site Location Expert Testimony**

The government disclosed that Special Agent Richard Busick will testify:

[R]egarding approximate location of certain cellular telephones, previously produced in Rule 16 discovery, including on the following dates: September 8, 2017; November 26, 2017; December 27, 2017; January 20, 2018; March 8-9, 2018; April 16, 2018; April 23-24, 2018; May 1, 2018; May 3-4, 2018; June 12, 2018; July 5-6, 2018; July 10-11, 2018; August 28, 2018; September 4, 2018; September 29, 2018; October 4-5, 2018; December 21, 2018; and February 19, 2019.

Ex. A, 5/27 Disclosure at 1-2.

In addition to the patently inadequate Rule 16 disclosure, *see supra* § III, SA Busick’s anticipated cell site location testimony suffers from an incurable flaw: the accuracy and reliability of this methodology have not been scientifically verified. *See generally* Aaron Blank, *The Limitations and Admissibility of Using Historical Cellular Site Data to Track the Location of a Cellular Phone*, 18 Rich. J.L. & Tech. 3 (2011).<sup>4</sup>

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<sup>4</sup> In the past decade, law enforcement’s use of historical cell site location analysis has come under increasing scrutiny. *See, e.g., United States v. Hill*, 818 F.3d 289, 299 (7th Cir. 2016) (cautioning the government “not to present historical cell-site evidence without clearly indicating the level of precision—or imprecision—with which that particular evidence pinpoints a person’s location at a given time.”); *United States v. Reynolds*, 626 F. App’x 610, 618 (6th Cir. 2015) (finding no abuse

The government's proposed expert testimony should not be admitted because it relies on insufficient data and is not the product of "reliable principles and methods." *See* Fed. R. Evid. 702. The myriad unknowns about law enforcement historical cell site location information include: (1) whether the underlying data is itself accurate; (2) what external factors affect the signal strength of the surrounding cell sites; (3) the precise coverage range of the relevant towers at the time in question; and (4) most importantly, how often a cellphone does *not* connect to the closest tower, rendering any location data based on the connecting tower presumptively inaccurate.<sup>5</sup> Because these unknowns substantially undermine the reliability of the proposed analysis, it cannot and should not be admitted at trial.<sup>6</sup>

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of discretion in admitting historical cell site analysis as agent's "technique . . . avoided the disputed assumption that each call connected to the nearest tower or originated from within a specific cell sector"); Victoria Saxe, Note, *Junk Evidence: A Call to Scrutinize Historical Cell Site Location Evidence*, 19 U.N.H. L. Rev. 133 (2020); Thomas J. Kirkham, Note, *Rejecting Historical Cell Site Location Information as Unreliable Under Daubert and Rule 702*, 50 U. Tol. L. Rev. 361, 381 (2019); Paul W. Grimm, *Admissibility of Historical Cell Phone Location Evidence*, 44 No. 4 Litigation 53, 56 (2018); John B. Minor, *Forensic Cell Site Analysis: A Validation & Error Mitigation Methodology*, 12 J. Digit. Forensics, Security, & L. 33 (2017); Tom Jackman, *Experts say law enforcement's use of cellphone records can be inaccurate*, Wash. Post (June 27, 2014) ("The use of cellphone records to place suspects at or near crime scenes is coming under attack in courts nationwide, challenging an established practice by federal and local law enforcement that has helped lead to thousands of convictions."); Douglass Starr, *What Your Cell Phone Can't Tell the Police*, New Yorker (June 26, 2014) ("[Y]ears of prosecutions and plea bargains have been based on a misunderstanding of how cell networks operate.").

<sup>5</sup> Other problems associated with the use of historical cell site analysis that are beyond the scope of this motion also suggest that the location of a given cellphone cannot be determined with precision using this technique. For example, while many cell towers have three antennas, the second most common type of site uses an omnidirectional antenna, which makes it impossible to directionally locate a cell phone signal. Further, call detail records (CDRs) only record the cell towers a phone connected to at the beginning and end of a call. Thus, if a caller was traveling while using the phone, it would be impossible to ascertain the route that the individual traveled. *See* Blank, *supra*, at 13.

<sup>6</sup> Of course, these unknowns are only exacerbated by the government's failure to disclose the specific cellphones and locations that are the subject of SA Busick's purported expert testimony. *See supra* § III.

### **C. Background on Cellular Phones and Cellular Networks**

Cellphones send and receive radio signals between the phone's internal antennas and cell towers, also known as cell sites or masts. *See* Larry E. Daniel & Lars E. Daniel, DIGITAL FORENSIC FOR LEGAL PROFESSIONALS: UNDERSTANDING DIGITAL EVIDENCE FROM THE WARRANT TO THE COURTROOM 229–30 (Robert Maxwell & Sue Spielman eds., 2012). Cell towers are designed to cover certain geographic areas, but coverage area varies, and range can be affected by external factors. For instance, during an influx of users into the coverage area, the range may decrease to accommodate the increase in users. *Id.* at 226, 233. Further, cell tower coverage areas are designed to overlap to optimize coverage and ensure smooth handoffs between coverage areas. Accordingly, a cellphone is usually within the coverage area of multiple cell towers. *Id.* at 229–30.

“It is a common misconception that a cellphone connects to the cell tower physically closest to it when registering to a cellular network.” Saxe, *supra*, at 139; *see also* Blank, *supra*, at 3, 6, 16. In fact, cellular networks are designed to connect a phone receiving or sending a call or text to the tower with the *strongest* signal. Daniel & Daniel, *supra*, at 229–30. Though proximity to the cell tower is important, a host of factors affect the signal strength, such as the number of available cell towers, topography, weather, population density, and the technical characteristics of the cell tower. *Id.* at 6.

### **D. Law Enforcement Use of Historical Cell Site Location Information**

When a cellphone sends or receives a text message or phone call and connects with a cell tower, the registration “ping” is processed by the carrier in mobile switching centers, and the carrier records the information for customer billing purposes. Daniel & Daniel, *supra* at 163, 225. This data is usually maintained for about 18 months, but some providers maintain it for several

years. *Id.* This information is maintained purely for billing purposes, and there is no dispute that historical cell site information, unlike GPS, was not designed to track a user's location. *See Kirkham, supra*, at 377.

When a party requests information for a particular phone number from the carrier, the information is produced in call detail records (CDRs), which typically show the date and time of the call, the duration of the call, the calling number, the called number, the carrier identifier, the billable time of the call, and the tower locations that connected to the call (either one cell site location if there was no handoff or two cell site locations tracking the beginning and end of the call). Carriers also provide tower data (*i.e.*, the location of neighboring cell towers), and most cell sites have three antennae facing different directions, with each antenna covering approximately a 120-degree area. *Id.*

Using CDR data, law enforcement analysts create maps to plot a user's cell site data and the location of relevant cell towers—although any conclusions are unreliable without visiting the physical location of the cell towers to confirm their location; collecting information about the strength of any cell towers; visiting the area to inspect terrain or geography; investigating potential signal obstructions; reviewing cell tower maintenance records; conducting drive tests or walk tests to estimate the coverage area of any cell towers; or making any attempt to validate the underlying CDR data. *See, e.g.*, Cisco, Wi-Fi Location-Based Services 4:1: Location Tracking Approaches 2-1 (2008).

#### **E. Historical Cell Site Analysis is Not Reliable Expert Evidence**

Historical cell site analysis is necessarily based on untested assumptions and techniques. First, its analysis assumes the carriers' underlying CDR data to be 100% accurate, which is erroneous. The standards followed by cellular carriers—the 3<sup>rd</sup> Generation Partnership Project



(3GPP) universal industry protocols—explains how to properly document if a CDR has been lost in the process of transferring the data into chargeable information. In the section on “lost CDR indicators,” the term “lost” is defined as “the CDR(s) could not be placed into the destination file due to irrecoverable errors.” John B. Minor, *Forensic Cell Site Analysis: Mobile Network Operator Evidence Integrity Maintenance Research*, 14 J. Digit. Forensics, Security & L. 59, 69 (2019).<sup>7</sup>

Similarly, it is erroneous to assume that cell tower location data is always accurate. Indeed, according to one study, carrier records “erroneously identified more than 20 cell site locations within a radius of 2 miles.” Minor, *A Validation & Error Mitigation Methodology*, *supra*, at 35. And a review by the Denmark National Police uncovered significant errors in carrier cell tower location records:

[T]he telecom providers’ mast lists have not been correct and continuously updated, and that there have therefore been errors in the telecommunications providers’ historical lists of the telemasters’ locations. It could be, for example, because a telecommunications company has set up temporary masts due to repairs [of] existing masts, or because there is a festival in an area and that therefore needs extra masts as there are more people gathered in one place.

Louise Dalsgaard & Emma Toft, *Understand the Mistakes in the Telecommunications Scandal: Telephone was in Copenhagen and Frederikshavn at the Same Time*, Danish Broad. Corp. (Aug. 31, 2019, 8:45 AM).<sup>8</sup> While analysts sometimes attempt to verify the location of cell towers using Google Maps/Google Earth, that technique is not reliable, because “street view” is not available when using Google Earth for historical analysis. Using only the aerial view, it is often difficult to

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<sup>7</sup> Of course, any conclusion further assumes that the cellphone in question actually belongs to the target in question.

<sup>8</sup> Available at: <https://www.dr.dk/nyheder/indland/forstaa-fejlene-i-teleskandalen-telefon-var-i-koebenhavn-og-frederikshavn-paa-samme>.

determine whether there is an antenna or cell tower on the map; and it is of course useless to verify that a cell site is *currently* at a certain location when trying to map the location of a cell phone from 2017 or 2018.

Third, historical cell site analysis makes faulty assumptions about coverage area. Carriers' CDR and tower data provide no information about the *strength* of a given tower's signal—which are crucial for determining location.<sup>9</sup>

Finally, and perhaps most importantly, the fundamental assumption underlying historical cell site analysis is that cellphones connect to the cell tower that is *closest* to the phone. *See Reynolds*, 626 F. App'x at 615, 618 (“The ‘one-location’ tracking approach assumes that the cellphone connected to the closest tower because that tower is most likely to produce the strongest signal” and finding that the district court did not abuse its discretion because the agent’s process avoided the disputed assumption that each call connected to the nearest tower”). This, too, is an unproven assumption. Perhaps in a perfectly controlled environment, cellphones would always connect to the tower that is closest because that tower would also provide the strongest signal, but in reality, this assumption does not withstand scrutiny. It certainly does not bear out in New York

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<sup>9</sup> While there are some methods of validating the coverage areas and signal strength, we have seen no indication that SA Busick undertook this laborious task. Specifically, to test the range of a cell tower, carriers conduct forensic radio surveys, or “drive” tests, in which an engineer drives through the area while operating mobile receiver equipment to measure the signal strength in the area. *See Saxe, supra*, at 144. But “given all the factors that affect signal strength and the unlikelihood that the weather and cellular network conditions during the test drive are identical to those when the cellular activity actually occurred, the reliability of this methodology is disputed.” *Id.*; Erin Murphy, *The New Forensics: Criminal Justice, False Certainty, and the Second Generation of Scientific Evidence*, 95 Cal. L. Rev. 721, 772–73 (2007) (“[V]erifying that a cell-site report accurately identified the location of a phone at a particular time requires verifying all the precursor data, including the accuracy of the tower location, clarity of signal, lack of interference with signal reception, and correspondence to actual physical terrain; this is obviously difficult to scrutinize.”). The service area boundary (“SAB”), or the maximum coverage distance if the cell tower was broadcasting alone (*i.e.*, if surrounding cell towers broke down), is usually much greater and can often extend up to over 15 miles.

City, with its high density of both buildings and cellphone users. *See* Cisco, Wi-Fi Location- Based Services 4.1, *supra* (“[T]he overwhelming drawback of pure cell of origin positioning approaches continues to be coarse granularity. For various reasons, mobile devices can be associated to cells that are not in close physical proximity.”); *see also* Jackman, *supra* (forensic analyst explaining that “[t]here are so many different factors [involved] that two cellular devices stationed next to each other making phone calls at the same moment could still get different towers . . . I’ve seen proof that two individuals, subscribed to the same cellular provider, standing next to each other – on surveillance – can still get different towers.”).

Moreover, factors such as topography, geography, weather, population density, and cell tower outages can, and often will, impact signal strength. In one study, after taking steps to account for these factors, the final map was modified in approximately 40% of the cases and “in 6% of the cases, use of the validation and error mitigation process resulted in a modified final mapping analysis that impacted the outcome of the case in terms of the verdict of guilt or innocence in criminal cases or damages awarded in civil litigation.” Minor, *A Validation & Error Mitigation Methodology*, *supra*, at 45–46.

At best, historical cell site analysis can sometimes show that an individual is within between *one and five kilometers* of a cell tower (if it is a small macro cell), as well as where an individual likely was *not*. *See Reynolds*, 626 F. App’x at 618 (finding no abuse of discretion in admitting historical cell site analysis because agent concluded that “the cell-site data *did not show* that [defendant] was *absent* from the home” and “[i]mportantly, [the agent] declined to draw a conclusion about [defendant’s] location on the basis of cell-site data alone”); *see also* Brief for the United States-Appellee, *Carpenter v. United States*, 138 S. Ct. 2206, at 11, 24 (2018) (the government argued that “[i]nferences about location drawn from cell site information are far less

precise than GPS data and do not permit a detailed reconstruction of a person’s movements” and noting that historical cell site analysis was “as much as 12,500 times less accurate than GPS data”).<sup>10</sup>

Because the government has not disclosed precisely what opinions SA Busick intends to espouse in his testimony, the data on which those opinions rely, or the methodology on which those opinions are based, the extent to which these faulty assumptions plague his anticipated testimony remains unknown to the defendants and the Court. Nonetheless, because the very nature of cell site location analysis necessarily rests on fundamentally unsound assumptions, SA Busick’s opinions by definition cannot pass muster under *Daubert*.

Indeed, the Federal Communications Commission (“FCC”) changed to its 911 emergency calling regulations is illustrative of the unreliability of cell site data—particularly the assumption of a device’s proximity to the connecting towers. *See* Michael Cherry et al., *Cell Tower Junk Science*, 95 *Judicature* 151 (2012). Previously, the 911 system identified the location of the cell tower to which an emergency caller pinged and, based on that information, routed the emergency

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<sup>10</sup> Cell site location data also has not been subject to substantial peer review. To our knowledge, there has only been one peer-reviewed study about the validity of historical cell site mapping conducted by law enforcement. *See United States v. Allums*, 2009 WL 806748, at \*2 (D. Utah Mar. 24, 2009) (explaining that the analyst was unable to “identify any peer-review process that the methodology has undergone, nor the rates of error”). As detailed above, this study looked at factors, such as weather and topography, that can affect a site’s signal strength, which law enforcement do not account for in their analyses. *See* Minor, *A Validation & Error Mitigation Methodology*, *supra*. Based on a review of approximately 100 criminal and civil cases in which an analyst created mapping exhibits, the study concluded that in approximately 100 criminal and civil cases in which an analyst created mapping exhibits: (1) there are validation and error mitigation techniques that analysts can take to improve the accuracy of historical cell tower mapping; (2) only 11% of analysts attempted to validate the geographic locations of cell sites, 7% conducted drive tests to estimate signal strength, and the remaining analysts conducted no validation techniques; and (3) “[u]se of the methodology in the same group of criminal and civil cases resulted in a modified final mapping analysis in approximately 40% of the cases” and impacted the final outcome of the case in 6% of the cases. *Id.* at 35–46.

caller to the dispatch center nearest to that tower. *Location-Based Routing for Wireless 911 Calls*, 33 FCC Rcd. 3238, 1 (Mar. 23, 2018). The goal of the 911 system was to route callers to the closest public safety answering point (PSAP) so that emergency services could be dispatched to a caller's location quickly. *See Saxe, supra*, at 149. But this methodology often led responders to the wrong place, in some instances to a location miles away from the caller's actual location, delaying the delivery of emergency care. *Id.* at 149–50. In one instance, responders were routed to Philadelphia after a woman suffered a head trauma in Burlington County, New Jersey, which is twenty to thirty minutes away from Philadelphia. *See Kirkham, supra*, at 381. Errors in “[e]mergency calls like this . . . *occur because the system relies on the fallacy that cellphones always connect to the nearest tower.*” *Saxe, supra*, at 150 (emphasis added).

Recognizing the potentially deadly consequences of relying on faulty cell site location data, the FCC now requires cellphones to contain GPS chips so that emergency responders can pinpoint a caller's precise location. *See Cherry et al., supra*, at 151. The FCC estimates these new regulations could save over 10,000 lives per year. *See Kirkham, supra*, at 382. This information is fatal to the government's claim that historical cell-site evidence is sufficiently reliable to be admitted against a defendant in a criminal trial, especially in one of this magnitude. As one commentator has explained, “[a] methodology that has been determined by independent government agencies not to be able to stake a caller's life on should not now be accepted as reliable enough to risk a defendant's liberty.” *Cherry et al., supra*, at 152.

If it is not sound enough to risk the lives of 911 callers, cell site location evidence is not sound enough to risk life sentences for the defendants. The Court should exclude the cell site location expert testimony of SA Busick as unreliable.

**V. FBI SPECIAL AGENT MICHAEL LIBERTI'S OPINION THAT "THE SHOOTER'S DOMINANT HAND WAS HIS LEFT HAND" IS INADMISSIBLE**

The basis for SA Michael Liberti's conclusion regarding the October 4, 2018 shooter's dominant hand is perhaps less reliable yet—indeed the government has disclosed no concrete methodology or basis for this opinion at all. The government disclosed that SA Michael Liberti “will testify that he reviewed video surveillance showing an individual firing multiple shots at John Doe-1 on July 11, 2018, at approximately 6:39 a.m. (BLANCO ET AL 015060),” and that “the shooter's dominant hand was his left hand.” *See* Ex. B, 6/14 Disclosure at 2. As disclosed by the government, this conclusion is founded on nothing more than “his expertise.” *Id.*

Nowhere does the government describe any principles or methodology on which SA Liberti purports to rely beyond his own amorphous “expertise.” FRE 702 requires more: “an expert basing his opinion solely on his experience must do more than aver conclusorily that his experience led to his opinion.” *523 IP LLC v. CureMD.Com*, 48 F. Supp. 3d 600, 643 (S.D.N.Y. 2014); *accord Thomas v. City of Chattanooga*, 398 F.3d 426, 432 (6th Cir. 2005) (“if the witness is relying solely or primarily on experience, then the witness must explain how that experience leads to the conclusion reached . . . and how that experience is reliably applied to the facts. The trial court's gatekeeping function requires more than simply taking the expert's word for it.”) (quotations and citation omitted). Exclusion of SA Liberti's proffered testimony is, therefore, warranted. *See, e.g., City of Almaty, Kazakhstan v. Ablyazov*, No. 15-CV-5345 (AJN), 2021 WL 5154110, at \*13 (S.D.N.Y. Nov. 5, 2021) (excluding expert testimony that “provide[d] no justification whatsoever” for methodology, finding that the expert's “professional judgment is, without more, insufficient to fill this gap”) (quotation marks omitted); *United States v. Percoco*, No. 16-CR-776 (VEC), 2018 WL 879499, at \*4 (S.D.N.Y. Feb. 13, 2018) (finding inadequate an expert's explanation that a particular numerical value was “just a judgment call”).

**VI. NYPD DETECTIVE THOMAS BURKE'S OPINIONS PURPORTING TO IDENTIFY A GREY FORD FUSION ALSO LACK RELIABLE METHODOLOGY**

Detective Thomas Burke's proposed testimony is similarly deficient. The government notices that:

Detective Burke is expected to testify that, having reviewed still images and video surveillance of a grey vehicle from October 4, 2022, that the grey vehicle in the video surveillance is a 2012 to 2014 Ford Fusion. Further, Detective Burke is expected to testify that he compared October 4, 2018 still images and video surveillance of a grey Ford Fusion with photographs of a grey Ford Fusion taken at Major World Auto on October 10, 2018, and that the vehicle depicted in the images and videos is the same vehicle depicted in the Major World Auto images. Finally, the government expects Detective Burke to review additional video of the grey Ford Fusion on October 4, 2018, and describe the details and characteristics of the vehicle that allow him to determine whether the vehicle is consistent or the same across pieces of video surveillance on that date.

Ex. C, 7/11 Disclosure at 2-3.

According to the government:

The basis for Detective Burke's testimony will be his 29 years of experience in the NYPD Autocrimes Squad. Detective Burke has testified approximately ninety times, in both state and federal courts. He has been qualified as an expert well over fifty times and has never been denied expert qualification. Detective Burke is expected to testify that in order to identify a vehicle, he searches for identification points on the vehicle that allow him to determine that a vehicle is of a particular make, model and/or year. He further searches for identification points on a vehicle that make it unique and, therefore, able to be matched to a specific car. Detective Burke is expected to testify that examples of identification points include, but are not limited to, body style and dents, glass, taillights, rims, brake lights, grill style and/or damage.

Ex. C, 7/11 Disclosure at 3.

Nowhere does the government delineate which "identification points" Detective Burke used to identify the Ford Fusion in question based on photographs and video images alone. Nor does the government explain why those particular "identification points" are a reliable means of establishing that the same vehicle appeared in different photographs. In other words, Detective

Burke's opinions are apparently based only on "his 29 years of experience in the NYPD Autocrimes Squad," and nothing concrete. *Id.*

More reliable analysis is required to render an expert opinion admissible under Rule 702. "[H]owever simple [the expert's] method or theory, he must provide some explanation thereof so that it can be evaluated as to its reliability." *Roniger v. McCall*, No. 97-CIV-8009 (RWS), 2000 WL 1191078, at \*3 (S.D.N.Y. Aug. 22, 2000) (excluding expert testimony for lack of reliable methodology). Detective Burke has utterly failed to do so here, rendering his expert opinions inadmissible. *See id.* at \*3-4 ("There are several problems with the reliability of [the expert's] opinion" because "he does not explain what theory or method he used to arrive at this opinion . . . there is simply too great an 'analytical gap' between the data and the opinion proffered for the opinion to be reliable."); *Sorto-Romero v. Delta Intern. Mach. Corp.*, No. 05-CV-5172 (SJF), 2007 WL 2816191, at \*9 (E.D.N.Y. Sept. 24, 2007) ("While Plaintiff asserts that Ojalvo's testimony is based on years of accumulated learning and insight, he did not provide specifics to support his contention," thus "Plaintiff has not established the admissibility of Ojalvo's testimony as to his design defect claim by a preponderance of the evidence." ).<sup>11</sup>

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<sup>11</sup> To the extent SA Liberti or Detective Burke's opinions are based not on methodology and demonstrable expertise, but on content readily viewed on video and in photographs, that too would be a basis for excluding their opinions. *See, e.g., Gomez v. Fachko*, No. 19-CV-05266 (LHK), 2021 WL 5178821, at \*4 (N.D. Cal. Nov. 8, 2021) (granting motion to exclude expert testimony based on expert's "review of . . . a video of the incident" as "specialized knowledge is not required to view videos and interpret what they do or do not show.") (quotation marks, citations, and modifications omitted).



## VII. CONCLUSION

Because the government's expert disclosures are insufficient under Rule 16, FRE 702, as *Daubert* and its progeny, the Court should preclude the government from admitting its proposed expert testimony.<sup>12</sup>

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New York, New York

Respectfully submitted,

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<sup>12</sup> We also join co-defendant Bushawn Shelton's motions *in limine* requesting: (1) disclosure and a hearing regarding admissibility of co-conspirator statements pursuant to FRE 801(d)(2)(E); (2) early disclosure of certain voluminous, prejudicial and contested evidence; (3) preclusion of expert testimony; and (4) preclusion of evidence produced following the Court's January 14, 2022 discovery deadline.